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LECTURES.

THE HEROIC TREATMENT OF IDIOPATHIC PERITONITIS.

A CLINICAL LECTURE DELIVERED IN THE HOSPITAL OF THE UNIVERSITY OF
PENNSYLVANIA.

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GENTLEMEN, — I am going to step out of my own special department, that of nervous diseases, to-day, and lecture to you on the case of Mr. L., one of your own number, who has been very sick for the past two or three days from an unusually severe attack of peritonitis. I hope that the interest of the case will atone for the liberty I have taken in thus going out of my proper sphere as a clinical teacher.

Three days ago Mr. L., a medical student, was suddenly seized with the most violent purging. The discharges were free and watery, and so constant that he was forced to remain at stool for two hours. This attack began about midday. In the evening the patient suffered from intense abdominal pain. By the following morning this pain had become unbearable. The tenderness below the umbilicus was excessive. There was free vomiting.

Now a great many high authorities contend that there is no such thing as true idiopathic peritonitis. In positive opposition to this view I hold that I have seen quite a number of idiopathic cases in my own practice. I know no reason why the peritonæum should not share the fate of the other serous membranes.

I saw the patient on the morning of the second day, and was quite puzzled in making out my diagnosis. The first questions I put to myself were: Is it a case of idiopathic peritonitis, or is there some other cause for the symptoms? Can they be the result of the passage of a biliary or renal calculus? After thoroughly sifting all the possible explanations I came to the conclusion that it was a case of enteritis which had extended to the peritoneal covering and brought on peritonitis. The seat of the pain was certainly not that which marks and accompanies the passage of a renal or biliary calculus. The most intense pain was

situated low down in the umbilical region. This pain did not run towards the back or penis, as is the case in renal calculus. Moreover, in these diseases I should not have found such intense local tenderness. There was a possibility of intussusception, which does occasionally occur in adults, but such an explanation seemed improbable, for (1) there was no passage of blood by stool, (2) there was no suppression of urine, and (3) there was no local tumor to be found. Could it be an instance of typhlitis? The tenderness was not greater on the right than on the left side, and the locality of the pain was not that of typhlitis. Another strong point against the supposition of the existence of any of the above diseases was that none of them begin with free purging, as has been the case here. Free purging is invariably a sign of some bowel complication.

I had some time ago under my care a woman who had been suddenly seized with the most violent cramping and spasmodic pain in the abdomen. The only thing which gave her relief was pressure. Her whole belly was exquisitely tender. All these symptoms had been the result of some undigested food. The irritative inflammation set up by this food had stopped all the secretions of the intestines, and had then extended to the peritonæum and caused serious inflammation there. I explained the present case to myself in the same way. The violent, paroxysmal, persistent pain and tenderness made it clear to me that, whatever had been the primary cause of the attack, I had to deal with a well-marked instance of peritonitis.

Now as regards the treatment I employed. This has been my fifth case of idiopathic peritonitis in private practice. I have seen many cases of peritonitis in puerperal women and in the Almshouse Hospital. In the Almshouse Hospital everybody is utterly broken down in constitution, and so no criterion of an acute disorder can be had there. In all of the five cases above mentioned I have had complete cures. My treatment is nothing new; on the contrary, it is very old. I remember my uncle, Dr. George B. Wood, saying that he never lost a case of peritonitis in an adult, and the reason he gave was that he always bled his patients from the arm until they fainted, and then put one hundred leeches on the abdomen. I am proud to say that I am a thorough believer in the same plan of treatment, antiquated as it may appear. In my first case, that of a woman, as I was not called in until the disease was of many hours' standing, I found bleeding unnecessary, but I did put on as many leeches as the abdomen would hold. In my second case I also leeches very heavily, it being too late to bleed. In my third case I drew thirty-two fluid ounces by leeches. The patient's cheeks grew deathly pale, her pulse was reduced, and she was left weak and relaxed, but made an excellent recovery. So with the fourth case. In my fifth case the excessive purging rendered the subject scarcely a

fit one for venesection. I therefore took away only fifteen fluid ounces, thinking that the purging had already weakened the man sufficiently. I have never, you see, had cause to regret having bled my patients copiously. It makes very little difference whether you take the blood from the arm or from the abdomen, provided you draw enough to make a profound impression.

You all know that in surgical practice a large number of local inflammations are subdued by obstructing their supply of blood; the inflammation subsides so soon as the passage of blood is prevented. I do not see why I should not apply this precise principle in cases of peritonitis. For just as a fire goes out when you take away its fuel, so venesection must have, and in my experience has had, a most salutary effect. I have said that it makes but little difference whether you take the blood from the arm or abdomen; taking the blood from the abdominal walls should certainly give a more direct effect, though this is not always the case.

What is to be done after venesection? I take my stand on the old theory that calomel has power to modify inflammatory action. In cases of iritis the microscope has positively revealed the absorption of the lymph following its use. We know that calomel renders the blood less coagulable, and stops the production of fibrine. In inflammation there is a great tendency to the production of fibrine of a low order, which is very likely to coagulate. I am, as you see, a most entire believer in the antiphlogistic properties of calomel, — not indeed in inflammations where there is too little fibrine, but in all inflammations where it is in excess.

As peritonitis is an exceedingly severe disease, and means death in ninety-nine out of a hundred cases unless they are treated promptly and efficiently, mercury, to do any good, must be taken in decided doses. In my fifth case, referred to above, I gave half a grain of calomel every hour. In this case I am giving one quarter of a grain every hour.

In connection with the calomel opium is undeniably of great value. We do not know exactly how the opium does good, except that as horrible pain breeds physical exhaustion, so opium puts a stop to this pain and to the exhaustion and restlessness accompanying it. Opium may therefore be said (1) to prevent exhaustion and (2) to cause quiet. I think, indeed, that it does even more by influencing beneficently the inflammatory action. If you give opium at all in peritonitis, give it in large doses. Use enough to keep the patient on the verge of narcotism. Opium, like every other medicine, has no fixed dose, but must be administered until its effects are noticed. Never administer opium in the form of hard pills, for the pills collect, unsoftened and unactive, in the alimentary canal, until the whole mass is suddenly dissolved and thrown

into the circulation. I therefore advise its use in the liquid form, and in repeated small doses.

The ability to stand large doses of opium in peritonitis is wonderful. In one of my cases *seventy-five* grains of solid opium were taken daily for five days, and the patient made an excellent recovery. In another instance twenty drops of deodorized laudanum were repeatedly injected into the rectum for a long period of time. As the disease wears out, the ability of the system to stand large doses subsides, so that the quantity must be gradually diminished.

Dr. Binz, in his latest work on therapeutics, makes the point-blank assertion that no one has satisfactorily proven thus far that counter-irritants do good in disease. In reply to this statement I desire to advance the argument that no one who has had a severe stomach ache will say that he does not believe in counter-irritation. Therefore by all means use blisters in peritonitis, but never use blisters in the early stages of the disease.

The first thing to be done when the leeches have been removed is to apply poultices; whether they are hot or cold makes little difference. Where there is a very marked tendency to feverishness it is perhaps better to apply cold poultices. If the abdomen is too tender to bear the weight of the ice-bag, apply light flannel cloths wrung out of ice water. In this case I have been using light cloths wrung out of hot water. A warm-water dressing may act merely as a local derivative to the skin, but I think it highly probable that some of the warm water oozes through the intervening tissues into the abdomen, and so acts directly as a soothing agent upon the inflamed peritonæum. Do not, however, understand me as making a positive assertion with regard to this point.

That warm and cold local applications do most certainly affect the neighboring and subjacent tissues to a considerable depth I have amply proven by numerous experiments upon animals. The application of ice to the head of a cat, for example, will affect the base of the brain very perceptibly. So, too, as regards external applications of either moist or dry heat.

After the abdomen has been thoroughly poulticed for two or three days blisters may be used, provided the temperature of the body has not remained high; that is, a blister may be applied at the end of three days if the temperature has fallen in the mean while. Do not put on a small blister. I was talking with my uncle, Dr. George B. Wood, the other evening about this very case, and he said that if he were in my place he would order a blister ten by ten (inches). I have ordered a blister eight by ten. In one of my first cases pus had formed in the abdomen, and I blistered so freely that the woman got tired of me and called in the services of an old Indian woman, who told her that her

liver strings were loose. Her treatment, like mine, consisted in persistent blistering. As soon as one spot of new skin showed itself the old woman would clap on another blister. After some more experience of the Indian doctress the patient determined to have me back again. I saw that though the herb woman's diagnosis was faulty her therapeutics were good, and by sticking to the blisters for some time longer I succeeded in curing my patient entirely.

How does quinia act in peritonitis? you will ask. There is a very prevalent belief that large doses of quinia are of service in this disease. I have seen most remarkable results from its use in puerperal peritonitis. There it does good by its action on the septic material, expelling it by causing contraction of the womb. Quinia might be of advantage in some cases of idiopathic peritonitis. Generally the stomach is not strong enough to bear it; such has been the case here.

As regards food, the less you give a patient in the first few days of an attack the better. When you do begin to feed, remember that you are feeding a patient whose abdominal contents are all glued together with adhesive lymph, and also remember that if these agglutinations are torn apart there is great danger of hæmorrhage or collapse. The food which should be given after the first acuteness of the attack has passed off must be that which leaves the least residuum of undigested matters, and therefore causes the least amount of peristaltic action on the part of the intestines. Milk in repeated small doses is the best article of food possible. After the end of a few days you may give some solid articles. If there are symptoms of exhaustion late in the course of the attack give beef tea as a stimulant. Alcohol is not only powerless but even dangerous in the early stages of the disease. A few doses of brandy in the first days of an attack of peritonitis may produce death. This patient took a couple of tablespoonfuls of brandy at the beginning to relieve the griping, and he says it burnt him like fire. Alcohol, of course, only adds fuel to the fire.

A very important question arises during convalescence as to how the bowels shall be opened. Never think of using a purgative or an enema. These bring violently into play all the muscles of the abdomen. Very often there will be a spontaneous movement on the fifth or sixth day, without any medicine at all. If there is not such an opening, give at the end of ten days a small dose of castor oil. If there is retention of urine, the water must of course be drawn off by means of the catheter. In using calomel in the early stages my advice to you is to push its use to the production of slight ptyalism and soreness of the gums. If you follow out the plan of treatment which I have sketched for you in all its details, I think you will treat the disease very successfully.

In concluding, let me point out how far this treatment is applicable to cases of puerperal peritonitis. I am convinced that there is a class of

cases in which it is desirable. Where there is a wave of puerperal peritonitis due to adynamia flowing over a section of country this treatment will be of no avail, for here the disease is only an expression of a blood disorder. Nor is this treatment well borne where the disease is plainly septic in its origin. There is, however, a third class, in which the disease has been brought on by bruising of the parts during the process of labor. In this class the treatment for idiopathic peritonitis is well borne. These are the cases resulting from an extension of non-septic metritis. Here, of course, free venesection does great good. In these cases there is always decided febrile reaction, but absence of the characteristic puerperal typhoid and adynamic expression of face. In such cases you should always superadd the use of quinia, so as to provoke uterine contraction and so prevent septicæmia.

You must have great care during convalescence from peritonitis to prevent a relapse. Do not think of allowing any violent or gymnastic exercise for a long time afterwards. Fibrinous bands have been formed in the abdomen and may have become the seat of blood-vessels. If these are torn you may have either acute hæmorrhage or a very serious relapse.

RAPID LITHOTRITY.¹

BY T. B. CURTIS, M. D.

Two years ago I read before the Boston Society for Medical Observation a paper on Lithotrity.² In the cases which I then communicated to the society, successful results had been attained by means of multiple sittings of very short duration. In one case offering peculiar difficulties together with a stone of large size, the number of sittings reached thirty-five, extending through a duration of many weeks, in the course of which the patient, who was over seventy years old, necessarily encountered great risks. In strong contrast with the method of treatment then advocated is the operation performed in the cases which I now bring forward. In these cases, three in number, a new method was adopted, for which its inventor, Dr. H. J. Bigelow, proposes the name of "rapid lithotrity with evacuation," thereby emphasizing the characteristics which chiefly distinguish this operation from lithotrity as hitherto practiced.

CASES.

CASE I. Mr. X., aged fifty-four, living at Watertown, was sent to me by Dr. H. I. Bowditch. First symptoms of urinary trouble about two years ago, when he began to suffer from increased frequency of micturition and occasional hæmaturia. One physician said he had catarrh of the bladder, making no local examination. Another one sounded for stone, but used for that purpose a metallic catheter with a large curve. The instrument being unsuitable for sounding, the stone was not detected.

¹ Read at the meeting of the Boston Society for Medical Observation, March 18, 1878.

² See JOURNAL, August 10, 1876.

When I saw the patient, February 1, 1877, he complained of pain, which felt as if the bladder were overfull, this discomfort being only partly relieved by micturition. There was also scalding pain at the meatus during urination. The vesical irritation was moderate, the patient urinating every two or three hours, but holding his water upwards of four hours if compelled to. He had to get up to pass water two or three times at night. The irritation was greater when he was moving about than when keeping quiet. He had never had stoppage of the stream, nor retention. The urine was acid and somewhat turbid, with pus cells and blood disks. The stone-searcher showed the presence of a hard stone, estimated to be about an inch in diameter. Moderate pain, with no bleeding, attended the examination, which produced no unfavorable after-effects.

February 12th. The meatus, measuring 25 F., was incised and enlarged to 32.

February 15th. Large metallic bougies, numbers 27, 28, and 30, were easily passed. The lithotrite was also introduced, but the stone was not seized, as the patient complained of pain when the instrument was opened.

March 6th. The operation took place at Watertown, Dr. John Homans kindly assisting by giving ether. The patient was feeling well. He had eaten nothing for five hours. The bowels had been emptied before the operation. The room was thoroughly warmed. Ether was well taken. The lithotrite being introduced and opened, a stone measuring one inch and a quarter in diameter was seized. It was broken, and the fragments were successively crushed during about half an hour. Then the curved evacuating tube number 31 was introduced, not without difficulty, it being necessary to pass to the left side of the patient in order to assist the progress of the instrument by means of the left fore-finger placed in the rectum. By means of Clover's apparatus, somewhat modified, a considerable quantity of fragments, large and small, was removed. The lithotrite was then reintroduced, succeeded by a second introduction of the large catheter. The lithotrite, used for the third time, found but little work to do, and the third and last evacuation brought out a few very small fragments only. The stone-searcher was then introduced, and showed the bladder to be free of stone. The operation was thus concluded, having lasted one hour and twenty-five minutes. The duration would no doubt have been shorter if I had had an assistant to prepare the instruments for use, to cleanse and oil the lithotrite, fill and empty the evacuating apparatus, etc. Throughout the operation there was, as usual in such cases, some hæmorrhage, the water issuing tinged with blood. After the operation the patient had a hot mustard and linseed poultice applied to the hypogastrium, and a suppository with one third of a grain of muriate of morphia. A rubber catheter was left, to be used if retention should occur.

The next morning, March 7th, the patient was without pain. The pulse was 68. He had slept badly, having suffered from retention, which was relieved at two A. M. by a neighboring physician by means of the rubber catheter, about a quart of bloody urine being drawn off. Since then the patient has continued perfectly comfortable. The retention persisted during four days, when the catheter ceased to be needed.

On March 8th, two days after the operation, the pulse was 64, the temperature in the rectum being 100° F. The urine was strong smelling and somewhat turbid, but not alkaline. The bladder was washed out with a solution of borax, glycerine, and water.

On the 10th of March, four days after the operation, the retention ceased, and the urine was almost clear. On the 11th the patient got up, and on the 16th, — the tenth day, — he went out. Since then he has been well, with clear, acid urine, containing no pus. He can hold his water six or eight hours, if necessary. He was last seen in January, 1868, ten months after the operation. The urine remained clear; there was no pain. The stone was composed of uric acid and of urates. The detritus removed during the operation weighed, when dry, two hundred and fifty-seven grains. The six largest fragments averaged four grains each in weight. The urine, carefully strained for a week after the operation, yielded only two and a half grains of gravel.

CASE II. Mr. Y., of Salem, aged about thirty-five, sent to me by Dr. H. I. Bowditch, whom he consulted recently on account of symptoms of phthisis, came to me March 26, 1877. The first urinary symptoms appeared about three years ago, but the patient had never been sounded. The symptoms have been as follows: pain in perineum; frequency of micturition, occasionally so great that he would urinate every half hour, and obliging him to get out of bed from three to six times at night, calls to micturate being imperious; jolting in a carriage, or in a horse-car when off the track, very painful; occasional inter-

ruption of stream during micturition; almost constant presence of oxalate of lime in the urine. These symptoms had been met with nitro-muriatic acid by his former medical attendant. When seen by me, his urine contained a little pus and blood, together with oxalate-of-lime crystals. The sound, easily and painlessly introduced, showed the presence of a small stone. The calibre of the meatus was 23.

The patient was exceedingly debilitated and emaciated by the two diseases from which he was suffering. His pulmonary symptoms were hardly such as to leave hope of his recovery. Nevertheless, the additional distress caused by the calculus was so great that Dr. Bowditch and I concurred in the belief that lithotripsy, especially if performed by Dr. Bigelow's method, would be beneficial.

April 2d. The meatus was incised, and enlarged from 23 to 30. Steel sounds 23, 24, 25, and 26 were introduced, the last with difficulty, the urethra being somewhat contracted in the perineum.

April 6th. The patient had an attack of cystitis, caused by overmuch walking about in Boston while attending to business during the preceding two days. There were suprapubic pain, thick and alkaline urine, with ropy pus, and fever. Rest in bed, milk diet, decoction of tritium repens, and opiated suppositories were the treatment used, and the symptoms became less severe, some fever being found, however, to recur every evening.

May 11th. Operation at Salem, Drs. Kemble and Carleton, of Salem, being present, as also two medical students as assistants. The patient was feeling tolerably well. The bowels had been moved by enema. Room at 73°. Ether was given. With the lithotrite a stone three quarters of an inch in diameter was seized and broken. It turned out to be quite soft, much to my surprise, as I had expected a mulberry calculus, on account of the habitual presence of oxalate-of-lime deposits in the patient's urine. Evacuating catheters 26 and 24 could not be introduced. Catheter 22 went in and evacuated fine gravel and sand, but no fragments of any size. The lithotrite and the evacuating apparatus were used alternately, each three times. Repeated attempts to introduce a larger tube than 22 failed. In the middle of the operation some difficulty and delay were caused by a fragment which got wedged into the prostatic urethra. The operation lasted two hours, at the conclusion of which time no fragments could be detected by means of the sound. There was very little hæmorrhage, the water issuing pink rather than red. The result of the operation was seventy-two grains of fine gravel and sand, composed of urate of sodium, oxalate of calcium, carbonate of calcium, and phosphate of calcium, according to an analysis by Professor Wood. The patient was left under the care of Dr. Carleton, who attended him subsequently, and who kindly communicated to me some of the further details of the case. The vesical symptoms were slight, there being little pain. Three days after the operation the patient could hold his water two or three hours. The urine was strained for several weeks, and sand amounting to forty-nine grains was collected, making the total weight of the stone, when dry, one hundred and twenty-one grains.

On June 4th, there being an occasional twinge of pain in the bladder, although the water could be held for half a day without discomfort, I introduced the sound and detected a small fragment, which was easily caught with the lithotrite and crushed, the diameter being one fourth of an inch. After this the vesical symptoms entirely ceased.

In June the patient came to Boston to see Dr. Bowditch with reference to his pulmonary disease, which continued to progress, and in the course of the summer he succumbed.

CASE III. Mr. Z., of Dorchester, aged sixty-eight. His urinary symptoms began two years ago. One year ago he consulted a physician, who recognized hypertrophy of the prostate, and instructed him very properly in the use of an English gum catheter. The bladder was also washed out.

When I first saw the patient in my office, in June, 1877, he was in fair general health. He was passing water with much straining and distress, at intervals of about an hour. The urine was turbid and muddy, strong smelling, but acid. He was using his catheter at bedtime, and, having so emptied his bladder, he was able to remain in bed all night. Having requested him to make water to the full extent of his ability, I introduced a soft-rubber catheter and drew off five ounces of urine. I advised the use of the rubber catheter several times daily, together with injections of a solution of borax.

On August 4th I was called to see the patient, who was suffering from an increase of cystitis. The urine was ammoniacal and ropy. There was smarting pain at the neck of the blad-

der during micturition. The introduction of the catheter had been causing pain and slight bleeding. The elbowed catheter of Mercier, number 18, went in easily, without pain or hæmorrhage. I advised the use of this catheter, with a daily washing out of the bladder.

August 10th. The urine was still ammoniacal, with ropy pus and lively bacteria.

August 13th. The patient had a feverish turn, with increased vesical irritation and pain, water being passed every hour.

September 4th. The usual treatment for cystitis complicating obstructive hypertrophy of the prostate having failed to afford relief, I decided to sound for stone. The patient was etherized at his house by Dr. E. G. Cutler, and the stone-searcher showed the presence of a small calculus. The urethra was quite capacious.

September 9th. Operation. Dr. E. G. Cutler again gave ether. The lithotrite easily broke up a soft stone somewhat over a half an inch in diameter. The lithotrite was thrice brought out packed. I then attempted to pass the large evacuating catheters, numbers 31 and 28, but they both stuck fast at the triangular ligament. Knowing I had but little gravel to remove, I refrained from protracted efforts to introduce them, and contented myself with catheter number 27, by means of which a small quantity of gravel was obtained. Then the lithotrite and the sound were successively introduced, but no fragments could be felt. During the operation, which lasted one hour, scarcely any hæmorrhage occurred.

For a few days there was slight cystitis and a little fever, but the reaction was very slight, the highest temperature observed being 100.4°. In a week all signs of disturbance had subsided, leaving only the symptoms necessarily resulting from the incurable prostatic disease.

A fortnight after the operation the patient was able to hold his water four hours, and could retain a pint of urine. The water was acid and nearly clear. The residual urine, or back-water, had diminished to two or three ounces. The patient, last seen in November, was still suffering in a slight degree from vesical irritability, and continued to use the catheter, together with borax injections.

REMARKS. — I have spoken of the operation performed in the foregoing cases as *new*. It is so. Some surgeons, calling to mind cases in which calculi have been successfully disposed of in a single sitting of lithotripsy, may be disposed to take exception to this statement. Thus, in Sir Henry Thompson's series of two hundred and four cases,¹ in which the number of sittings to a case averaged 5.5, the largest number in any one case being eighteen, I find seven cases in which one sitting proved sufficient. In each of these seven cases, however, the stone is said to have been small, that is to say, of a size "not exceeding the volume of an ordinary nut." Between these cases, where the stones were of so small a size as to make a second sitting not only superfluous but impossible, and such cases as have been successfully treated by Dr. Bigelow's operation, there is a very great difference. Although only a few days ago, in a case for which I am indebted to Dr. Ellis, I succeeded in completely relieving a patient of a stone measuring half an inch in diameter by means of a single sitting of lithotripsy, the idea would never suggest itself to me of including this case among the instances of "rapid lithotripsy" which form the subject of this communication. No one before Dr. Bigelow had succeeded in relieving a male patient suffering from a vesical calculus of large or even medium size, save by one of two methods: either by lithotomy, or else by a number of successive sittings of lithotripsy, lasting through a period of several weeks or months.

¹ Practical Lithotomy and Lithotripsy. London. 1871. Appendix, page 293.

Such being the facts, I venture to assert that we have henceforth, in dealing with cases of stone, a choice of three separate methods of surgical treatment where, until recently, we had been restricted to two. Just as stricture of the urethra may be treated by urethrotomy or divulsion, constituting what the French call the *méthodes de force*, or by gradual dilatation, called the *méthode de douceur*, so in cases of stone we have, on the one hand, the forcible treatment, comprising, together with lithotomy, the "rapid lithotripsy" of Dr. Bigelow, and, on the other hand, the gentle treatment, consisting in lithotripsy divided into multiple short sittings. This new lithotripsy, terminated if possible in a single prolonged sitting, is as distinct from the old procedure as is the treatment of stricture by the divulsion of Holt or of Voillemier when compared with the time-honored method of gradual dilatation.

The innovations which have made possible such results as were set forth by Dr. Bigelow in his recent publication on this subject¹ were twofold in character. In the first place, the well-known evacuating apparatus, which had hitherto proved efficient only in a very limited degree, owing chiefly to the inadequate calibre and imperfect shape of the catheters accompanying it, was largely modified. It was thus rendered capable of doing its intended work with sufficient rapidity to enable the surgeon to evacuate unprecedented quantities of *débris* within a space of time not incompatible with the safety of the patient. The manipulation of the apparatus also was reduced to an art by itself. Secondly, the rule prescribing short sittings of lithotripsy, not exceeding in duration two, three, or at most five minutes, was boldly departed from, and it was found that a sitting of two hours or more could in most cases be endured with perfect safety, provided only that it was so managed as to result in a tolerably complete evacuation of the calculous fragments. In several of the cases which I have seen, both of my own and of other operators, I have been extremely struck with the fact that after a long sitting, lasting from one to two hours, no greater reaction ensued, whether in the form of cystitis or of fever, than habitually attends each of the ordinary short sittings of lithotripsy, as practiced by the most experienced surgeons. In some cases, even, the disturbance caused by the single long sitting has actually been less severe than that previously occasioned in the same patient by the preliminary sounding, or by an exploratory introduction of the lithotrite preceding the final operation. The only explanation of this remarkable fact, so little to be expected from the accepted teachings on the subject, is that proposed by Dr. Bigelow, namely, that the working of the lithotrite within the bladder is far less harmful than the fragments which have hitherto been left behind. Any disturbance of the bladder by instruments, then, however slight, be it only the introduction of a sound, is liable to exert the most injurious

¹ See the JOURNAL, February 28 and March 7, 1878.

effects if the stone be left behind to continue and increase the local irritation; while, on the other hand, the protracted manipulation of large and powerful instruments is likely to be well tolerated, provided only that the operation is so conducted as to eventuate in the complete removal of the offending foreign body.

The difficulties and risks of Dr. Bigelow's operation depend mainly upon its occasional long duration. Any very protracted operation, involving delicate manipulation, is necessarily attended by more or less fatigue, both bodily and mental. Not only is the operator liable to increasing muscular fatigue, but his attention and his senses also grow weary; the tactile and the so-called muscular sense lose their delicacy of perception, and the surgeon, unless forewarned and keeping careful watch over himself, is liable, after a while, to apply more force than he is aware of to the delicate parts upon which he is operating.

The most difficult step of the operation is, perhaps, the introduction of the evacuating catheter. This must in every case be the very largest in calibre that it is possible to insinuate through the urethra. The shape of the instrument, however, is so designed, with a view to efficient evacuation, as to render it somewhat unfavorable for easy introduction. On this account a wide, easily traversed urethra is always very much to be desired, and the presence of stricture, even in a very slight degree, is a decided barrier to the easy or successful performance of the operation.

The advantages of the new method appear quite conspicuously, I think, in some of the cases which have been published. In the first place it has thus far proved to be quite a safe procedure. Out of a total of thirteen cases of which I have knowledge, which comprise all the instances in which "rapid lithotrixy" has as yet been performed, in only one was the operation the cause of a fatal termination. That was the case of a feeble, prematurely aged patient of sixty-six, whose kidneys, in all probability, were in such an advanced state of latent disease as to preclude the possibility of benefit by any operative treatment. The mortality attending the operation, in the limited number of cases where it has been performed, has therefore been the same as that lately stated by Sir Henry Thompson¹ as the result of his entire experience with lithotrixy, namely, one death in every thirteen cases.

Not only has the operation thus proved quite devoid of immediate danger, notwithstanding the inexperience of those who have resorted to it for the first time, but the recovery of the patients has been remarkably rapid and complete. In my first case the patient was up in less than a week, and he was out at the end of ten days, having probably been kept confined several days longer than was really necessary. Ever since the operation, moreover, his urine has remained clear. Dr.

¹ See the *Lancet*, March 16, 1878, page 385.

Porter's patient was discharged from the hospital, well, three days after a sitting lasting nearly four hours, in which gravel weighing seven hundred and six grains was removed.

While doing less immediate violence to the patient than lithotomy, the treatment by "rapid lithotrixy" certainly does not tax his endurance — his "staying-powers," to use the slang phrase — so severely as does lithotrixy practiced in the usual dilatory way. It therefore seems not unlikely to prove a safer operation than either of the older procedures for aged patients, as well as for cases where considerable loss of strength has resulted from sufferings of long duration or from a complication of diseases. *A fortiori*, in a simple, uncomplicated case, with a medium sized or even a large stone, and a wide urethra, the new method seems to me preferable to either of the other operations.

With regard to the question of indications there remains but little to be added. Provided the stone is not so large or so hard as to make its fragmentation by the lithotrite mechanically impossible; if the patient is not so reduced in strength as to render all operative treatment unadvisable; and if his urethra is sufficiently wide to admit a fair-sized tube, say from twenty-eight to thirty-one in calibre, "rapid lithotrixy" can be performed with good prospects of a speedy and complete recovery. The only serious counter-indication to this particular method of treatment is the presence of an obstacle preventing the introduction of large instruments. In many cases, however, of slight stricture a preliminary treatment by internal urethrotomy or by large bougies would probably suffice to set aside this difficulty, and to render the new operation feasible.

Further experience alone can show the capabilities and the limitations of lithotrixy as practiced by Dr. Bigelow. Sir Henry Thompson¹ has lately laid much stress upon the disadvantages and dangers attending lithotrixy when applied to stones exceeding "a moderate size." In a recent discussion before the Royal Medical and Chirurgical Society upon the treatment of stone in the bladder, he said that "he thought lithotrixy was still preferable where the stone might be crushed at three or at most four sittings. Beyond that he was not as a rule prepared to go, and at that point he should mostly prefer to cut." Sir James Paget, who also took part in the discussion, was disposed to confine lithotrixy within even narrower limits, saying that "were he to begin an active surgical life again, he would begin with lithotomy, and reserve for lithotrixy only those few cases in which the calculus could be got rid of in two or three sittings." According to the *Lancet*, commenting upon the statements made by Sir Henry Thompson, "the inference to be drawn from his full and complete experience is that lithotrixy is, as a rule, unsuitable for stones more than an inch in their long diameter —

¹ The *Lancet*, February 2, 1878, page 159; March 16, 1878, page 385.

the actual limit varying with the nature of the calculi — and for those that require the fenestrated bladed lithotrite. For such lithotomy should be employed.”

The dangers of lithotritry, which are dependent mainly upon the injury liable to be incurred by the vesical mucous membrane in consequence of the prolonged presence of fragments, appear so great to the experienced authorities quoted above as to lead them, in cases where the stone exceeds certain quite narrow limits, to prefer lithotomy with all its well-known perils. It seems to me, however, that when the size of the stone or the age or feebleness of the patient are unfavorable to lithotritry, they must also weigh with great force against the cutting operation, which, as the lately published experience of Sir Henry Thompson shows, is attended in the most skillful hands by a mortality exceeding thirty-seven per cent. when practiced upon adults in cases unfit for lithotritry. Inasmuch as the risks of injury to the bladder from retained fragments are wholly avoided by their immediate and complete removal, the operation devised by Dr. Bigelow seems not unlikely to take the place of lithotomy with advantage in cases where the treatment by multiple sittings of lithotritry appears to be counter-indicated. It should not be forgotten that the great aim of the surgeon is to get rid of the stone in the shortest time with the least damage to the patient. That this result can be accomplished by means of “rapid lithotritry with evacuation” the cases already published suffice to show.

GUN-SHOT FRACTURE OF SKULL.

BY J. O. WHITNEY, M. D., PAWTUCKET, R. I.

LOVECA ROOT MALEY, aged twenty-three years, died on April 7th, forty-seven hours after a fatal wound from a misshot by another actress, a victim to the dangerous sport of having an apple shot from her head.

The range was but nine feet, with an elevation upwards at the rate of one and a quarter inches to the foot. The ball (No. 22, conical) entered a little to the left of the centre and fairly within the hair, her head being erect. It struck the skull at a very acute angle, shattering it, and knocking a hole in it, and passed onward and out of the scalp about an inch and a half from the place of entrance. Both scalp wounds were circular; the flesh at the anterior one turned in, and the other turned out, and about the latter the hair was filled with powdered bone and bits of “fibre,” no doubt a part of the diploë. A few scales of bone were found also, one clearly from the internal table. There was not the least doubt that the longitudinal sinus was opened, for she was deluged with venous blood, and the brain was exuding from the anterior scalp wound. The violence of the bleeding ceased in a short time,

but again returned in four or five hours. It seemed that she would die at once from shock. The pulse was nearly gone; pupils normal; convulsive movements in all the extremities, but most on the left side. In twelve hours reaction was fair, and she was removed from the operating-house, where the affair had taken place, to her hotel. She had urinated unconsciously. She showed no signs of intelligence farther than swallowing water from a teaspoon, although the attendants say emphatically that she made responsive expressions to inquiries. At first the pupils responded to the stimulus of light. At the end of twenty hours the pulse was strong, full, and becoming irregular. The breathing also was a little irregular, and the pupils began to dilate, but were equal.

There was no notable change in these symptoms, but a gradual increase of them till death, which was abrupt, and entirely unexpected at the moment, although not the least encouragement of recovery had been given to the friends.

The town authorities came to the conclusion, tardily, to hold a coroner's inquest; the body being ready for transportation to Western New York, and the friends very much opposed to a post-mortem examination, it was not ordered.

RECENT PROGRESS IN MILITARY SURGERY.¹

BY G. A. OTIS, M. D.

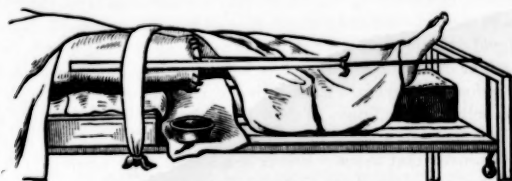
PROCEEDING from this point, the commission insists, from well-established facts and clinical experiments and hospital observations on the process of putrefaction, concerning the influence of the different relations of putrid matter with the air, that in every wound there is nothing harmful save the condition of want of free access of air, which produces the most pernicious form of putrefaction. On the other hand, the free admission of the air, as well as its absolute exclusion or *hermetism*, is invariably favorable to healing and the prevention of complications. The hurtful influence of porous bodies, as bandages, threads, and the like, becomes easy to understand. To avoid the harmful causes of the want of open ingress of air and to combine exclusively the favorable conditions of the treatment were two distinct practical problems to solve, the fundamental principle being postulated. The commission contends that the general method of aeration for treating wounds and granulating surfaces, tested by three years' discussion and experiment, satisfies by the simplest precepts the requirements of these two problems, and for the simplicity of its application, rational and strict precision in dealing with the wound and patient, facility in supervising the wound, and rapidity and economy of treatment commends the method to surgeons and administrators. Looking at the natural healing of wounds in man and the lower animals without medical intervention, the commission urges that one is amazed at the abundance of means that the living organism uses in struggling with external agents of the decom-

¹ Concluded from page 535.

position of dead matter. The almost invariable absence of signs of gangrene in an open wound is not less striking, though regularly appearing in wounds covered with porous dressings. In every lesion of continuity, whatever its depth, is observed a liquid, at first limpid, then more or less sanguinolent, then purulent, forming over all the surface of the wound, driving the air from different crevices, and covering the whole with a continuous layer through which it remains in contact with the ambient air. That the superficial layer of the effused liquid dries in a crust, or the crust forms at the edges only, according to the depth or extent of the wound, is indifferent; healing is unimpeded, and no complication supervenes. Such a free contact of the wound with the air meets precisely the conditions of free access of air, which exclude between the air and wound every space that might permit the confinement of air; and observation proves that these relations are natural and adapted to the favorable progress of wounds, and demonstrates that whatever the means by which the natural situations of healing are attained, — whether by increasing the quantity of liquid that fills the wound, or accelerating the formation of a crust, or by forming a dry eschar by the aid of caustics, — the favorable progress of the wound is promoted as the important terms are not infringed. Just the opposite is observed when there are formed within the surface of the wound and the ambient air free spaces and crannies, which are not in immediate relation with the ambient air. Whether these circumstances are found either in the wound itself or in the porous dressings applied to it, when signs of putrefaction and phenomena of irritation, hyperæmia, and inflammation become palpable; whether putrefaction makes rapid progress in such predicaments and its marked physiological effects are hastened; or whether, because of the fortuitous invasion of most potent putrid agents, the formation of poisonous products immediately commences, it is certain that the privation of the free access of air is the condition that interferes with the natural relations above mentioned, and constitutes the principal source of grave septic complications so justly called the scourge of surgical wards. "Consequently" the commission holds that "the fundamental rules of the *aeration method* consist in avoiding in every way the causes of the free access of air; in not permitting of any porous body on the surface or in the depths of a wound; in seeking to place the wound in the favorable conditions above mentioned; lastly, in cases of urgent necessity for the toleration of some kind of porous bodies, by having recourse to the most energetic means of rendering them harmless, that is, by destroying their porosity and by disinfecting them."

The second part of the report of the Russian commission is devoted to minute details of the practical application of the *aeration method*: (1) the treatment of wounds by first intention, including amputation and other incised wounds; (2) the treatment of suppurating wounds; (3) shot wounds; (4) compound fractures; (5) resection wounds; (6) granulating surfaces. We have not space to enter upon any of these details. The wood-cut on the following page will give an idea of the numerous illustrations contained in the report for treating operative and other wounds without further intervention than metallic sutures, catgut ligatures, and absolutely essential means of support and protection.

The statistical facts on which the commission rely as demonstrating that under the aeration method amputation wounds result more successfully by fifty per cent. than in the open treatment of Dr. Rose, of Zürich, and that the antiseptic or Lister treatment is not incompatible with the aeration method, are still "in press" and inaccessible.



Aeration treatment of thigh stumps (after Kostarev).

It had been my purpose to review the experience of antiseptic treatment in military surgery, especially in actual field practice, but want of space forbids. The readers of the JOURNAL are familiar with the papers of Dr. Goss and Dr. R. White.¹ Assistant-Surgeon A. C. Girard's report to Surgeon-General Barnes on his personal observations of this treatment in the hands of its author and of Surgeon-General Nussbaum of the Bavarian army is reprinted in the *Medical Record*, 1877, vol. xii., page 721. Dr. Girard last winter received a letter from Professor Lister² on the use of the method for shot wounds of the knee-joint in actual field practice by a Russian military surgeon. Dr. Girard last year made suggestions for facilitating the antiseptic dressing by the use of worn-out mosquito bars prepared as antiseptic gauze, as described in the foot-note.³ Excellent suggestions for diminishing the costliness of the antisep-

¹ White (R., Jr.), Personal Observations of Lister's Antiseptic Treatment, in Boston Medical and Surgical Journal, 1877, vol. xxvii., page 235.

² Assistant-Surgeon A. C. Girard, U. S. Army, received, at Fort Randall, Dakota, November 28, 1877, the following letter from Professor Lister on the successful use of the antiseptic dressing of shot wounds of the knee-joint by a Russian military surgeon:—

12 PARK CRESCENT, REGENT'S PARK, LONDON, October 24, 1877.

MY DEAR SIR,—Your kind letter and inclosed report have reached me to-day, and I hasten to tell you how much pleasure they have given me. The kind reception I met with while in America last year prepared me to learn before long that antiseptic treatment was taking root and bearing fruit there. What you say about the worst enemies of the system being those who profess to adopt it but fail to carry it out efficiently is perfectly true. It may interest you to learn that I received a few days ago a letter from a Russian surgeon who is in chief position with the Russian army in Asia Minor, and who, having learned antiseptic treatment in Edinburgh, had introduced it into his university clinic at Dorpat, and thence had transported it to the seat of war, taking with him the apparatus for preparing antiseptic gauze, showing that "where there's a will there's a way." And the results he is getting are certainly, as he expresses it, "*herrlich*." Thus seven successive cases of gun-shot wound of the knee-joint, almost all complicated with fracture, are recovering without inflammatory disturbance! I confess it was very gratifying to me to learn that the antiseptic treatment can really be effectually carried out in military practice. Thanking you again for your kind communication, I remain

Yours very sincerely,

(signed)

JOSEPH LISTER.

³ The following is an extract from Assistant-Surgeon A. C. Girard's letter, dated Fort Randall, July 8, 1877: "During my sojourn abroad last winter I had occasion to satisfy myself of the wonderful success of wound treatment under Lister's system, and, since my arrival at this post, I have endeavored to carry out the same with the limited means at my disposal. The only objection to the system is the cost of dressings, and this I have tried to overcome and, I believe, have succeeded. The purpose of this letter is to submit suggestions which, if followed, will enable every surgeon to prepare his own dressings with a minimum expense to the department. The supply list enables me to keep on hand the different carbolic solutions, carbolic oil, the spray (with the steam atomizer, which, though furnishing a weak stream, is better than the 'local anesthesia apparatus'), the solution of chloride of zinc, the 'protective' (oiled silk dipped in carbolic starch and dried), the mackintosh (our rubber cloth), the 'antiseptic sponges and silk.' The only articles not supplied, or at

tic treatment are also brought forward by Mr. J. Chiene.¹ After the publication of Dr. Weir's valuable papers,² with a figure and description of the steam-spray apparatus manufactured by Tiemann & Co. under his supervision, the purveyor was enabled to supply the medical officers of the army with serviceable and comparatively inexpensive appliances for the antiseptic treatment.

I had designed also to advert to the contributions on M. Guérin's cotton-wool dressings, to which many of the French military surgeons³ have largely resorted, and which is well described in the *JOURNAL* from personal observations by Dr. T. B. Curtis,⁴ and had wished particularly to call attention to the good results that military surgeons have had in treating lacerated wounds of the extremities by continuous immersion in tepid baths, as recommended by Professors Hamilton,⁵ Langenbeck, and Spence. But I have room only to urge the briefest comments on the antiseptic and open or aeration method of treating wounds. Of the former there remains, as Dr. Emmert⁶ has well said, the question whether the success of the Lister treatment should be ascribed to the antiseptic powers of the carbolic acid and its mode of application, or to minute preservation of cleanliness in the entire sphere of the wound, the careful ligation of the vessel, the removal of all blood coagula, the provision for the escape of wound secretions, the careful approximation and occlusion of the wound,—thus excluding all possible mechanical irritation, etc.,—in short, the rigid observance of completely rational rules of wound treatment. The majority of practical surgeons, viewing the good results of Professor Thiersch

least not in sufficient quantity, are the 'gauze' and the carbolized catgut. The latter is easily prepared if Lister's rules are strictly observed. The gauze offers more difficulties, which, however, I have succeeded in overcoming. Being at a loss what dressing of those on hand to select, I chose at first the patent lint, the most porous, but found that it lost by the preparation all its absorbent power. Having on hand a number of old unbleached mosquito bars, which, being somewhat torn, had to be condemned, I thought them a good substitute, and, after preparation, used them in the dressing of an amputation in the metatarsus, with complete success, for on removal of the gauze not the slightest smell could be perceived in the discharge. Nearly every army hospital has a few of these mosquito bars on hand awaiting the action of an inspector, and by preparing from them antiseptic gauze they would be put to better use than conversion to mop rags. The following is the mode of preparation which I found most convenient and suitable: They should first be ripped; then steeped in lye for twenty-four hours, to remove not only noxious substances, but to improve the absorbent power of the fibres by removing fatty matters. Then steep them in Lister's mixture of crystallized carbolic acid one, common resin five, paraffin seven parts. . . . This mixture is best obtained by dissolving the resin and paraffin in a tin bucket on the stove and adding the carbolic acid when the solution is made. I obtained the best results by steeping and heating the gauze in the solution on the stove, as thus it does not harden so quickly when the surplus is pressed out. To effect the latter I found the most convenient mode to be to pass the gauze through a clothes-wringer, of which there is a specimen at nearly every post. The instrument is not injured thereby, and can easily be cleaned with hot water and a cloth. After pressing out all the surplus liquid and cooling the stuff, it should be stretched into shape, rolled up, and kept in some air-tight receptacle, like a tin bucket or boiler, until needed for use."

¹ Chiens (J.), *The Antiseptic Dressing of Wounds*, in *Edinburgh Medical Journal*, 1877, No. cclxx., page 509.

² Weir (R. F.), *On the Antiseptic Treatment of Wounds and its Results*, in *New York Medical Journal*, December, 1877, and January, 1878, vol. xxvii., page 561, vol. xxviii., page 30, and republished in pamphlet form.

³ Flaux (M. L.), *Note sur l'Application du Pansement onaté de M. A. Guérin*, in *Recueil de Mém. de Méd.*, etc., 1872, 3ème ser., tome xxviii., page 386. Casadebat, *Étude comparée des divers Modes de Pansement des grandes Plaies*, in *Arch. gén. de Méd.*, Février, 1878, tome xxxvi., page 154.

⁴ Curtis (T. B.), *Cotton-Wool Dressings for Wounds*, in *Boston Medical and Surgical Journal*, 1874, vol. xxi., page 197.

⁵ Hamilton (F. H.), *Use of Warm and Hot Water in Surgery*, in *New York Medical Record*, May 15, 1874. Langenbeck (B.), *Das permanente warm Wasserbad zur Behandlung grösserer Wunden, insbesondere der Amputationsstümpfe*, in *Deutsche Klinik*, 1856, No. 37, page 409. Spence (J.), *Address in Surgery at the Forty Third Meeting of the British Medical Association*, Edinburgh, August, 1875; *On the Treatment of Wounds and Surgical Dressings*, in *British Medical Journal*, 1875, vol. ii., page 197.

⁶ Emmert (C.), *Ueber moderne Methoden der Wundbehandlung*, in *Archiv für klin. Chir.*, 1874, Bd. xvi. page 102.

with salicylic acid dressing, and of M. Guérin with carbolized raw cotton, and their personal experience with the several antiseptic methods, are disposed to attribute the good results mainly to the series of wholesome precautions above enumerated.¹ So, likewise, in regard to the open treatment. Examples multiply of the favorable results attending this method when instituted with the rigorous adhesion and minute attention to the rational principles and salutary precautions on which all surgeons are agreed,² and which have been so well taught us by Hunter, and John Bell, and Liston, and Syme, and Professor Spence in his sound address at the forty-third meeting of the British Medical Association.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. G. CUTLER, M. D., SECRETARY.

JANUARY 14, 1878. *Fractured Patella.* — DR. JACKSON showed the specimen, and reported the case. The patient was a practicing physician, fifty-eight years of age, and broke the right patella between fifteen and sixteen years before his death by a fall upon the ice and a direct blow upon the bone. The separation of the fragments was not far from an inch. His brother, who is also a physician, applied two strong bandages, one above and the other below the joint, tied them firmly together, and then placed the limb upon a straight splint with the thigh flexed upon the pelvis. The treatment was continued for some weeks, and with so good result that the patient felt perfectly sure that there was bony union; "one of these days," he had often said to Dr. Jackson, "you will see that it is so." The union was so very close and firm that after removal, with all the force that could be used, not the slightest motion between the fragments could be felt, and it would have been regarded as a bony union if it had not been either sawed or macerated. Three longitudinal sections, however, were made through the bone, and it was proved, so far as these would show, that at no one point were the fragments united by bone. The union was as close as possible, but by a very dense and fibrous tissue that practically would be quite as serviceable as bone. The patella was considerably elongated, and upon the under surface the cartilage seemed to be as directly continuous between the fragments to the extent of about two lines, as if the bone had never been broken.

A very remarkable peculiarity in the specimen was an extensive and pretty well defined depression of the anterior surface of the bone. It was so marked

¹ Among pathologists who have written ably in favor of this view may be mentioned: Massini, *Lister's Antiseptischer Verband*, in *Schweizer Correspondenz-Blatt*, 1872, Nos. 15, 16; Schultze, *Ueber Lister's Antiseptische Wundbehandlung*, in *Sammlung klinischer Vorträge*, 1873, No. 52, Leipzig.

² Eschmarch (Fr.) (*Verbandplatz und Feldlazareth*, zweite vermehrte Auflage, Berlin, 1871, S. 55) argues in favor of the open-wound treatment, and denounces the "mechanical manner in which sticking-plaster bandages are employed by many surgeons." And Passavant (G.) (*Bemerkungen aus dem Gebiete der Kriegschirurgie*, in *Berliner klin. Wochenschrift*, 1871, No. 3) says that the excellent results of Bartscher's open-wound treatment induced him to imitate this simple method, and declares that he was highly astonished at his own success. Dr. Goss (*loc. cit.*, page 77) calls attention to the liability of danger of intermediary and secondary hemorrhage in the open method from lack of sufficient support to the divided vessels of the wound. Accidents had actually occurred to Mr. C. De Morgan in cases of amputation of the thigh and extirpation of the mamma in patients treated at the Middlesex Hospital by the open method. (*Cases illustrating the Open Treatment of Wounds*, in *The Lancet*, 1874, vol. 1, page 570.)

as to attract attention at once, and it was an appearance that Dr. Jackson had never before seen in any specimen, recent or prepared. The fibrous substance over the bone and within the limits of the depressed surface seemed no thicker than elsewhere. As the fracture was the result of direct violence, Dr. Jackson suggested as an explanation of the depression that there may have been, besides the fracture, a crushing down of the cancellated structure, as is sometimes seen in the bodies of the vertebræ in the case of fracture, the injury being so far recovered from, after a period of fifteen years, that no trace is to be seen of it on section of the bone.

About six months before the patient's death he broke the left patella, and undoubtedly by muscular action, as he fell when going down-stairs in consequence of catching the heel of his boot. In this case the fragments are strongly united by fibrous substance, but with a separation of about one half of an inch.

Dr. Jackson showed a patella from the society's museum, in which there was strong bony union after a partially transverse fracture. He also referred to a specimen that he had recently seen in the Army Medical Museum, in Washington, of complete transverse fracture, through about the middle of the bone, with firm bony union. In the museum of the College of Physicians, in Philadelphia, there are also two specimens, one in which the union is by solid bone, but not complete or continuous. The other appears to have had essentially a similar result, but requires a further examination. In the Army Museum there is also a very fine specimen of stellate fracture, with strong bony union. All of these last had been macerated.

DR. HODGES, in commenting on the specimens, said with regard to the first that, though the explanation given by Dr. Jackson might be correct, he was inclined to the belief that there had been a growth of new bone between the fragments. He founded his belief on the following facts: When the bone is fractured it cracks open, and there is a tilting up of the fragments. In the specimen referred to the anterior or superficial surface of the patella showed that the gap between the two fragments had been greater than on the posterior or deep surface towards the joint. The greater extent of the anterior surface demonstrated the existence of the usual tilting up of the fragments, while the length of the bone itself, which was much greater than a normal patella, indicated that there had been a very considerable filling in of new bone tissue between the fragments. In this case the increase in length of the bone was due apparently to an increase of bone outside the articular surface. He would confess, however, that on his own theory it was hard to explain why the union by bone had not been entire. The second specimen, where the treatment seems to have been the same, shows that chance is a great factor in the result.

DR. BIGELOW coincided with the view entertained by Dr. Hodges regarding the first specimen.

DR. DAMON considered that the stellate form of fracture gave rise to less deformity than the transverse; he mentioned a case in point, where fracture occurred, crepitus was found, and recovery without deformity resulted.

DR. JACKSON said that there was a patella in the cabinet of the society which presented the stellate form of fracture, and in which there was no deformity.

JANUARY 28, 1878. DR. WILLIAMS read a paper on Eserine and Pilocarpine in the Treatment of Eye Disease, which appeared in full in the JOURNAL of March 28, 1878.

Morphia Habit. — DR. LYMAN presented the following case as an oral communication. Mrs. W., aged forty-seven, married, had consulted him on January 4, 1878, and gave the following history: At eighteen years of age, under the advice of her physician, she began to take small doses of morphia for some obscure pains about the lumbar region and kidneys. She continued this *unadvisedly*, gradually increasing the quantity until she was twenty-four, and without intermission, except that at one time for a period of three months it was discontinued, but the craving became so incessant and tormenting that she felt compelled to resume it. Four years since she tried a specialist in Indiana, whose remedy she was assured contained no morphia, but suspecting from its effect that this statement was not true she submitted the remedy to Professor Wood, of the Harvard Medical School, for analysis, who fully confirmed the accuracy of her suspicions. With these exceptions she has since the age of twenty-four averaged daily the same amount that she takes at present. Her husband weighs out each morning four powders of four grains each, the whole sixteen grains being taken usually before midday. Occasionally she takes one half, that is, eight grains at a single dose in the morning, and the remaining eight sometimes separately and sometimes together during the day. These slight variations in the method and hours of taking are governed by her own feelings. Sometimes she has a morbid fear, "an indefinable dread," of sleep, and passes several nights in succession without lying down. She complains only of restlessness and an inability for quiet occupation, some excitement being necessary to prevent drowsiness. Sometimes she drops asleep suddenly when in the horse-cars, or at the theatre, or at her own table, subjecting herself to much mortification. Otherwise she thinks that no one would suspect the habit. She is now in good flesh, though a small eater, and with indifferent appetite. General appearance decidedly anæmic; no disturbance of renal or cardiac functions; when asleep is tranquil, and without dreams; bowels regular with assistance of injection; and the catamenia were always regular until the menopause, a year ago.

Mrs. W. readily consented to a reduction of the dose to twelve grains daily, equivalent to a diminution of one fourth.

January 27th she reported that she had persevered with the reduced dose without any excessive inconvenience, and was to try a farther reduction of two grains daily. In view of the age of the patient, the long continuance of the habit (more than half her life), and the comparatively trifling effect upon her general physical and mental condition, Dr. Lyman thought it unwise, and indeed she would not consent, to make any attempt at sudden total abstinence, feeling confident that it would result in more injury than benefit.

Dr. Lyman also mentioned another case, in which a young woman, having received subcutaneous injections of morphia, acquired the habit of injecting herself. He brought about a discontinuance of the practice by advising the ordinary dose to be diluted one half with water, which was finally reduced to injections of water alone, which in turn was diminished in quantity, and finally stopped entirely.

DR. MINOT spoke of a case of the morphia habit in a woman. He had sent the patient to Dr. Day, who had stopped the morphia at once. It is believed the patient never resumed the habit.

DR. LYMAN mentioned a case he had previously reported to the society, in which a man had acquired the habit of drinking a wineglass of laudanum three or four times a day. In treating him he had never been able to get below a teaspoonful dose, which was still continued.

DR. WILLIAMS had seen a case of the opium habit consequent on an exhibition of the drug in repeated attacks of iritis. The habit was so confirmed that the patient had consulted him with the idea of having the eye removed, thinking that this might aid him in breaking off the habit. The operation was contra-advised from lack of evidence and other reasons, and the patient was cautioned to leave off the opium by the gradual method; this course was pursued, and he is now cured. The method of administration had been subcutaneous.

Caries of the Temporal Bone. — DR. J. O. GREEN related the following case, and illustrated his remarks by a prepared specimen: A boy, aged eleven years, during an entire night last spring suffered from earache. The pain was followed by a slight discharge, which has continued ever since. When presented for examination the membrana tympani was healthy; just outside the tympanum and above there was a small mass of granulations, which were cauterized with good effect. The probe showed a small cavity at the seat of the former granulations, three millimetres long and one and a half wide, just outside the drum, and in it were some polypi, which were removed. The anatomy of the parts showed that but a very thin layer of bone existed between the bottom of the cavity and the brain. There had been no subjective noises and no trouble with the hearing; the caries had proceeded without symptoms with the exception of the slight discharge mentioned. The risk of such a case is evident.

New Apparatus for Fractures of the Leg. — DR. T. B. CURTIS showed the apparatus, a full description of which, accompanied by a plate, will appear in the JOURNAL shortly.

FEBRUARY 11, 1878. *Aortic Aneurism.* — Case reported by DR. LYMAN, who also showed the specimen. E. A. S., a mariner, aged forty-eight, married, entered the City Hospital August 22, 1877. The patient then said he had been in good health until fifteen months before, when he was attacked with vomiting and irregular action of the bowels, diarrhoea and constipation alternating. He said that he had had a cough, with viscid sputa, for the same time, often so severe as to disturb his sleep, and occasionally resulting in vomiting. He had worked for some years in a grain elevator, where there was much dust; more recently he went to sea for two months, which relieved his cough. He complained at the time of his entrance to the hospital of frequent palpitation, with severe pain in the cardiac region, left shoulder, and arm. A year ago he first noticed a pulsating spot over the third rib below the middle of the left clavicle; this impulse is now very manifest over a space three inches by two. There is a loud, well-marked souffle, diminishing in intensity from the base to the apex

of the heart. No perceptible thrill. No difference in pulse of radials. The souffle is distinct in the scapular region, but less so than in front. He was put upon the iodide of potassium, twenty grains daily, and chloral hydrate pro re nata.

The next day he reported that he had slept better the night before, though the pain in the left shoulder and arm at the time of the visit was more severe.

Four days later he was much relieved. He had had but one attack of dyspnea and palpitation in the past forty-eight hours. Had slept well, and had a good appetite.

September 2d (a week later), the iodide was increased to thirty grains. The cough had begun to be very troublesome and continuous, and for this reason *tinctura opii* was ordered as occasion required. For the next ten days cough, pain, and restless nights were the chief complaints.

On the 16th the record was as follows: A decided thrill is now perceptible in the tumor. The souffle in the tumor extends to the subclavian of the left side, and is still more extensive on the right side. The pulse in the right radial is now noticed to be sharp, quick, and firm, the pulse in the left being soft and full.

Respiration normal in right front, obscure in left front, and the same in the back. Bronchophony in the neighborhood of the tumor. He was ordered *digitalis* and *cannabis indica*, but they disagreed with him, and he was obliged to resume morphia, as that only gave relief, and from this time it was given freely to relieve his distress.

November 25th, a violent fit of coughing was induced by an attempt to swallow a purgative pill. The patient complained of gastric irritation. For the past ten weeks he had been kept absolutely at rest, generally on his right side, and upon a low diet, with iodide of potassium and tincture of aconite, but the effect in slowing the pulse was never very marked. The 7th of October his pulse was 110, and for a few days it came down, occasionally below 90, but ranging generally from 90 to 100 until his death.

December 9th the gastric irritation had become so prominent that the iodide of potassium and aconite were omitted and not again resumed. He grew slowly but steadily worse, and died of exhaustion on the 12th of January, 1878.

Autopsy, twenty-four hours after death. Both lungs adherent posteriorly; nutmeg appearance of the liver; kidneys, spleen, and intestines normal. The heart was removed and placed in alcohol, and reported on by Dr. Bolles a fortnight later as follows: The tissues are partially shrunken and discolored. Heart as a whole not enlarged, but right ventricle considerably hypertrophied and dilated. Valves of right side normal; left side not hypertrophied, mitral valve normal, aortic valves somewhat stiffened. Immediately above the valves the aorta was dilated to the size of the closed fist, the dilatation extending so high as to include the origin of the innominate artery. The walls of the aneurism were generally thickened, except in one spot posteriorly. Over a large part of its circumference there was a deposition of fibrine in layers varying from one eighth to three quarters of an inch in thickness.

Aneurism of the Arch of the Aorta. — DR. LYMAN reported the case at a

previous meeting. J. H., a widower, aged forty-seven, entered the City Hospital September 11, 1877, under the care of Dr. Draper. By occupation he was a machinist, but his work, "attending a boring drill," was not heavy or straining. In February, 1876 (nineteen months before), he first noticed pains in his neck and shoulders. The pains sometimes were so severe as to deprive him of sleep when in the recumbent posture, and obliged him to sit up and rest his head on a table. Fifteen months before, in June, 1876, he perceived pulsation above the right clavicle. This is *now* well marked over both clavicles. Pain at *present* less severe, but the patient complains of excessive dyspnoea. He gets but three or four hours' sleep at night because of "strange, dull sensations in the chest." Cough varies in severity. Appetite poor. The patient has never been subjected to heavy straining at his work, but left off work a week before his entrance to the hospital, as he "felt it to be killing him." He has been better since then.

Upon examination the left side of the chest was more full than the right. Loud musical soufflé at the apex of the heart, barely audible at the base; pulsation above and below both clavicles. Right radial pulse much the stronger. Five days later, decided aortic obstructive and regurgitant murmurs were noted. There was a slight thrill beneath the right and above the left clavicles, not extending into the carotids. A foramen the size of a dime was observed in the upper part of the sternum. The patient was anæmic. In October Dr. Lyman assumed charge of the patient and confirmed the above observations. A slight thrill extended perceptibly into the right pulse. There was a loud systolic murmur at the third intercostal space at the left of the sternum, *diminishing downwards*; it extended above to the right and left clavicles, and was very loud and rasping in the right supra-clavicular space. The patient was ordered absolute rest in the recumbent position, reduced diet, and twenty grains of the iodide of potassium three times a day.

Three weeks afterwards the intensity of the murmur was found to be somewhat diminished. Two inches below the nipple a marked to-and-fro sound was observed, with occasional intermissions. Four days later, the pulse not being any slower (104 in the minute), aconite was added to the treatment.

One week later, November 1st, the dyspnoea and cough had increased, and caused great suffering. Neither morphia nor chloral gave relief. Obstruction to the pulmonary circulation became more and more manifest, and sonorous and sibilant râles completely masked the cardiac murmurs. The recumbent position became no longer possible, and from this time attention was given only to measures of temporary relief, chiefly by chlorodyne and opium. The patient continued in this state for about two weeks longer, and on the 16th his only relief was obtained by lying across a small table at right angles, with his feet on the floor. At this time his dyspnoea was excessive, and he was afraid to lie down or cough; anasarca was noticed for the first time. The patient died the following day.

At the autopsy there was found to be an aneurism of the arch of the aorta near the innominate, communication with the aorta being by a small opening. In shape the aneurism resembled a cone with its base attached to the sternum, a part of the manubrium being eroded through. It was irregularly triangular

in form, the base measuring two and a half inches in its broadest diameter. The aortic opening, of about the size of a thumb, was obstructed by a soft clot. The cavity of the aneurism was nearly filled with hard laminated fibrine not of recent deposit. The ascending and transverse portions of the aorta were dilated; the innominate and all the large vessels from the arch had aneurismal dilatation for an inch or two. The heart was dilated, its mitral orifice not much enlarged; the aortic orifice was dilated, and the edges calcified. The aorta was atheromatous.

FEBRUARY 25, 1878. *Hernia treated by Heaton's Method.* — DR. LANGMAID showed two children on whom he had operated by the injection method of Heaton.

CASE I. Leo, aged four years, entered the Children's Hospital September 16, 1877. He had a fall a short time before his entrance into the hospital, and the same night complained of pain in the groin; a small tumor was discovered in the left inguinal region, which has since become a complete scrotal hernia.

In November and December the patient was twice operated on at intervals of about three weeks. Very slight inflammation followed the operations, but the hernia returned, it is believed from the impossibility of keeping the hernia bandage well in place. January 8, 1878, he was operated upon for the third time, and a bandage was applied. The hernia returned in three hours, and could not be reduced. Three days later it was found to have disappeared of itself. There is now a dense, firm plug of plastic lymph (?) filling the inguinal canal, and apparently keeping back the hernia.

CASE II. Louis, aged three years, had a double congenital inguinal hernia. He was operated on in December by Heaton's method. In this case there was considerable inflammation, and a severe epididymitis of the right side, due to the needle having been passed through the invaginated scrotum. In this case as in the previous one the inguinal canals are filled by a plug, which on the right side accompanies the cord nearly to the bottom of the scrotum. The hernias have never returned.

Dr. Langmaid said, in answer to Dr. Bigelow, that the nature of the fluid injected governs the amount of inflammation. There had been but a single occasion when the inflammation had been at all great.

DR. BRADFORD said that English, of Vienna, injects alcohol, a still greater irritant than white-oak bark, without bad effect. His experiments had been carried on quite independently of those of Heaton.

Cancer of the Trachea. — DR. G. C. SHATTUCK reported the case of a man who entered the Massachusetts General Hospital on the 30th of January, suffering from extreme dyspnoea and hoarseness, with some difficulty in swallowing. These symptoms were all attributed to taking cold about a month previous to his entrance. The larynx was examined by Dr. Knight, who found that there was paralysis of the right posterior crico-arytenoid muscle, but that the dyspnoea was evidently due to some obstruction in the trachea, a view of which could not be obtained on account of the distress of the patient. The right vocal cord was intensely congested at the time of this examination. The pa-

tient died February 11, the dyspnoea being urgent during the greater part of his illness. Temporary relief was obtained by the subcutaneous injection of morphine sulph. a sixth and atropine sulph. a sixtieth of a grain in combination. An examination with the laryngoscope by Dr. Knight at this time showed that the congestion of the right vocal cord mentioned above had almost wholly disappeared. The last two days of his life there was bloody expectoration.

The autopsy was made by Dr. R. H. Fitz, who found the trachea to be distorted and obstructed by a cancerous tumor of the size of a small lemon lying between the trachea and œsophagus, and extending from just below the thyroid body to the innominate artery. From its anterior portion a soft, nodular mass projected into the trachea, diminishing the canal of the latter at least two thirds. The œsophagus was so compressed as barely to admit the little finger. The growth presented the structure of an epithelial cancer, yet the lining membrane of the œsophagus was freely movable over it, although the muscular coat was intimately united with the surface of the tumor.

The right pneumogastric nerve was flattened and closely adherent to the lower border of the tumor at the point where the nerve passes in front of the right subclavian artery.

The lungs did not collapse in their removal from the thorax, were intensely injected, and but slightly œdematous. The larger and smaller bronchi were filled with muco-purulent fluid, and a recent moderate reddish-gray and somewhat translucent infiltration was observed at the base of the right lung, the pleural surface of which was slightly adherent to the thoracic wall by fresh adhesions.

Thrombosis of the Inferior Cava. — DR. SHATTUCK also reported a case of cancer of the liver giving rise to thrombosis of the inferior vena cava, death eventually occurring from embolism of the pulmonary artery.

The patient, a man sixty-seven years of age, had been well till three months before, when he was suddenly seized with a chill, followed by vomiting and fever. A similar attack occurred on the next day. Since then there has been occasional chilliness, slight cough, and difficult breathing, with sleeplessness at night. His appetite had been fair, and he had been able to work at his trade, upholstery. When first seen he complained of epigastric pains, swollen feet, and wakefulness. He stated that he had lost much flesh and strength. His face was pale and his expression anxious; an ill-defined hardness could be felt just below the xiphoid cartilage, but no distinct tumor. He remained under treatment only a week, during which time he had a quick pulse and a temperature of 102° F., with diminished resonance and subcrepitant r  le over the right back. His mind wandered somewhat, and his death finally took place very suddenly. The heart-sounds were normal.

Dr. Fitz had made the autopsy, and stated that in addition to the pulmonary embolism there was an acute fibrinous pneumonia in the upper lobe of the right lung. The cancer of the liver formed a rounded mass of the size of the two fists, projecting from the upper surface, and adherent to the diaphragm. The hepatic wall of the vena cava was thickened, and contained an adherent decolorized thrombus some two inches in length, nearly filling the canal. It

was continued downwards into both iliac veins by recent thrombosis. The upper portion of the thrombus had been cut across in removing the heart, but from the appearance of the cut edge it was evident that the clot must have extended into the right auricle.

DANGEROUS AMUSEMENTS.

AN illustration of the great risk to life which accompanies some of the entertainments now offered to the public has lately been given in Pawtucket, R. I. The details of the case are presented in another column. We have long been familiar with the perils of the trapeze and tight rope, happily rendered less dangerous of late years by public opinion; but in the case to which we refer the risk was incomparably greater, indeed may be considered quite exceptional, and yet curiously the performance has been allowed to pass uncriticised during several seasons. It consisted in shooting an apple placed on the head of a girl; but as if to increase the danger to its maximum, the shot was fired by a woman whose back was turned to her, the gun being placed over the shoulder, and sight being taken by aid of a mirror. The following testimony, offered at the inquest, gives a more accurate idea of this extraordinary performance: "I placed the apple on M^{lle} Volante's head, with her back to the target. I closed her eyes, placed the mirror firmly on three nails, laid my gun upon my right shoulder, placed my left hand on the breech of the gun and right hand on the trigger. The trigger, when the gun is in this position, comes level with the lobe of the ear. I then placed the muzzle above the object, and, bringing the sight down, fired. I thought the shot was perfect until I heard the word 'Oh!' from the audience and saw the blood." In the verdict rendered the following very sensible advice is offered: "that the jury, in view of the tragic occurrence and the increasing tendency to give and witness exhibitions of like reprehensible character, do earnestly recommend the passage of an ordinance by the town council of this town, prohibiting all exhibitions wherein life is placed in jeopardy by rifle shooting, knife throwing, or any other causes whatever."

Many exhibitions of this class have an appearance of great danger without the reality. In others it is the only element which makes them profitable. Public judgment can therefore be relied upon to but a limited extent to control such abuses. It is due, probably, to a disbelief that such risk as was apparent in the present case would be taken by any sane individual that a just appreciation of its real character has not been sufficiently wide-spread to cause its suppression.

The morals of the stage are just now undergoing a tolerably careful inspection, at least in this city; but the physical ordeal to which those are subjected who embark in this profession has not provoked discussion, even under the powerful stimulus of such a catastrophe. The Society for the Prevention of Cruelty to Children has already done good work in the right direction, but there are cases beyond the reach of the philanthropic which seem to call for more active legal supervision than is now exercised.

MEDICAL NOTES.

— We are happy to announce that the State of Rhode Island has organized a Board of Health, but we are surprised to learn that Dr. Snow, whose excellent work on sanitary matters our readers are familiar with, has not been made a member of the board. The efficiency of such a body would be greatly enhanced by securing the services of a valuable expert like Dr. Snow.

— A report made to the Board of Police Commissioners of the City of Cleveland, Ohio, by Frank Wells, M. D., health officer, and entitled *Filth in its Relation to Disease*, may be said to have accomplished its object. It contains an excellent summary of what is known on this subject, and the author seems to have done his work thoroughly. Perhaps, however, one or two of the statements may not be universally accepted. The typographical errors are few, and the book has an attractive appearance.

— The *Berliner k. Wochenschrift*, 1877, quotes the observations of Professor Bacelli, of Rome, to the effect that when a pleuritic patient pronounces the word "trenta-tre" the physician will (1) hear the word clearly if the pleura contain a large quantity of clear serum rich in albumen; (2) will notice that the transmission of the sound is only slightly impeded by an inflammatory effusion which is rich in fibrine; and (3) that the word is no longer audible if there be an abundant exudation of sanguineous or purulent fluid. The ear must be exactly applied to the chest walls.

— In a Goulstonian lecture on The Localization of Cerebral Disease, Ferrier cites at considerable length the famous American Crowbar Case, at one time considered a mere "Yankee invention." Ferrier's remarks upon this case are very interesting, and may be found in the *British Medical Journal* for March 30th.

— Dr. Howard, of New York, recently demonstrated at the St. Mary's Hospital of London his method of restoring animation by artificial respiration. It has been approved by eminent British medical men, and the *British Medical Journal* has prepared an illustrated report of it for publication.

— The fees for medical teaching in the London medical schools have been considerably increased because of the greater expense connected with the improved methods, and the extension of subjects in modern medical education.

— Dr. Sourdes, of Nancy, lately obtained at a medico-legal necropsy a heart which exceeded in weight all recorded specimens of the *cor bovinum*. According to the *Revue médicale*, with one exception, in which the weight was two pounds three ounces, the recorded weights have varied between one pound one and one half ounces to one pound eight ounces avoirdupois. The heart in question weighed, on the day of the autopsy, fourteen hundred and eighty grammes (three pounds four ounces and two tenths avoirdupois). After preparation and immersion in alcohol for some days it still weighed twelve hundred and fifty grammes (two pounds twelve ounces avoirdupois).

— The *Lancet* reports the unique case of a child who had swallowed a squeaking air-bladder. The toy slipped through the glottis with the quill mouthpiece upward, so that with every inspiration the bladder became more or less inflated, thus impeding the entrance of air into the lungs. Death by suffocation was the result.

— According to the *Pacific Medical and Surgical Journal*, the faculty of the Medical College of the Pacific has determined to advance the standard of education in the college and place it on a basis similar to that adopted by "the University of Pennsylvania and the few other Eastern schools which have made the forward movement." The above journal is apparently ignorant of the fact that the requirements of the Harvard Medical School are in advance of those of all other medical institutions of the United States.

— The Richmond and Louisville *Medical and Surgical Journal* sensibly says: "The pamphlets on medical subjects, which are received in such large numbers by editors of medical journals, would obtain far more recognition if their authors would adopt the habit of closing them by giving a summary of the views or arguments advanced."

— Dr. Wiss recently asked the interest of the Medical Society of Berlin in the healing qualities of the neglected balsam of Peru. Wiss asserted that in all cuts and lacerations of skin or muscular tissue the application of the balsam is at once followed by relief of pain and rapid repair without suppuration or any signs of inflammation (?). The power of the balsam to prevent suppuration led him to use it in chronic catarrh. He gives four parts balsam to one hundred and twenty parts of yolk of egg. One teaspoonful every two hours with excellent results.

— The professorship of surgery and the office of director of the surgical clinic of Halle have been offered to Dr. Ranke.

SURGERY IN BERLIN.

MR. EDITOR,— American medical men coming abroad and intending to devote a portion of the time, at least, to surgery should not fail to visit Berlin and its five principal hospitals, namely, the University Clinic, the Städtisches Krankenhaus, Bethanien, Charité, and the Augusta. But especially the first, where Professor von Langenbeck holds his clinic two hours daily. Those attending the clinic regularly can, if they choose, enter their names so as to be called down once or twice a week to diagnosticate surgical cases. Once there, one is allowed to remain for the rest of the two hours. As the seats are assigned in the order of application, it is desirable to be in Berlin as early as October 15th. Those who expect to find in Berlin such fine instruments or such skilled assistants and nurses as in our best American hospitals will be disappointed, and the accommodations for the students remind one of many an hour in the Harvard anatomical lecture-room. However, a new building, large and convenient, will be erected this spring for the university clinic. Berlin affords a great number of tumors of every description and in every part of the body. Especially frequent of occurrence are large sarcomas. Whether these are removed earlier in their development in America, or whether the conditions of life abroad are such as to favor their growth, is certainly an open question, but beyond doubt they appear to be relatively more numerous. The same may be said of the various arrests of development, as seen in the most pronounced forms of hare-lip, cleft palate, etc. The num-

ber of rickety children and of adults with caries of the wrist and ankle is very striking.

Professor Langenbeck operates with great grace and dexterity, quite rapidly enough, and with astonishing boldness. He knows his anatomy and surgical pathology most accurately, and has them always at command. His lectures upon surgery are very exhaustive (occupying four winter semesters for their completion), are remarkably clear and concise, and most valuable by reason of his immense experience in military and civil practice, and his careful study of individual cases. His recollection of minute details, both of the cases daily brought into the clinic and of others long past, is wonderful. He is most emphatically a worker. His hospital clinic and lectures take precedence of his private practice, while his course in operative surgery takes place at six A. M. in the summer months. Those who have seen his plastic operations will not soon forget his way of cutting rapidly and without a guide closely-fitting skin flaps for transplanting from the most improbable sources. He has made over two hundred staphylorrhaphies without an anæsthetic, and with the patient in the sitting posture. His amputations and resections are eminently conservative, as he never does the first when the second may possibly answer, and treats expectantly (with success) joint injuries that seem to call for operative interference. The antiseptic treatment, as advocated by Professor Lister, is but partially carried out in the University Clinic in most cases, although carbolic solution (five per cent.), free drainage, antiseptic dressings, with the gauze bandage, are universally employed. It is only in exceptional cases, where healing by first intention is imperatively demanded, that the carbolic spray (three per cent.), or lately thymol solution (one to one thousand), as advised by Billroth, is employed as far less irritating to the skin and free from the danger of carbolic poisoning. The objection to thymol (which, however, appears to answer very well) is its easy evaporation, leaving the dressings dry. Carbolized catgut is always employed for ligatures in closed wounds, Professor von Langenbeck having never had but one case of secondary hemorrhage that could be attributed to this ligature in any way. Torsion is no longer employed; the catgut ligature was adopted as possessing nearly all the advantages while free from the possible dangers of the former.

Volkman, in Halle, appears to obtain brilliant results in his after-treatment by the extreme "Lister" method, although the hygienic conditions in and about his hospital are said to be very unfavorable. His recent publication of seventy-eight consecutive cases of every variety of compound fracture, of which he did not lose one, aroused considerable interest. His most promising pupil, Dr. Schüde, has the surgical department of the new Berlin City Hospital under his direction. His results are nearly as good as those of his preceptor, who, we believe, has exceeded Lister himself. On the whole, the strict antiseptic treatment seems to be gaining favor in Germany, where it is far more universal than in England, being employed wholly or in part by nearly every surgeon of note in the confederation. The attempts to diminish the cost of the dressings and still retain their utmost efficiency are as yet but partially successful. Bardeleben (in Berlin), it is true, uses jute, piling it upon the wound in such a manner that a fore-arm, for example, so dressed has nearly the size and

shape of an adult's head. In all methods the aim seems to be, first and foremost, free exit for all fluids formed in the wound; secondly, perfect cleanliness of the surrounding skin and bandages; and, finally, to filter, either by the quality or quantity of the dressings, all air that can possibly reach the wound, of course, instruments, sponges, etc., being in proper condition. While the so-called "Lister treatment" is expensive, its practical efficiency overrated, and as at present conducted totally incapable of being carried out in a campaign, still, from the evidence which Professor von Langenbeck's clinic and the Berlin City Hospital alone afford, it is not too much to expect that in a well-ordered hospital the surgeon will in the future operate with confidence where formerly he did so with hesitancy; the patient will be more comfortable, and his stay in "the house" shorter than before this important change in treatment.

W. B. PLATT.

"COOL PRECISION."

MR. EDITOR, — In his Monday lecture of April 15th, reported in the *Boston Daily Advertiser* of April 17th, the Rev. Joseph Cook, speaking of certain alterations of the blood, cited the assertions of several observers who claimed to have discovered characteristic corpuscles in the blood of patients suffering from certain infectious diseases. Among others the lecturer mentioned "Nedvetski" (*sic*) as having seen in the blood of patients afflicted with the cholera certain exceedingly minute rod-like bodies. Stress was laid also, in the dogmatic and emphatic manner peculiar to Mr. Cook, upon the statements of "Lostorfer," (*sic*) confirmed, said the lecturer, by Stricker, and corroborated by Biesiadecki, to the effect that the blood of syphilitic patients contains characteristic corpuscles. After advancing these statements as representing definitively ascertained facts, Mr. Cook added, "You stand hushed before the recital of these searching recent conclusions of exact investigation." . . .

Consulting Carpenter (Physiology, American edition, 1876, page 269), the "authority" referred to by Mr. Cook for his "recent conclusions of exact investigation," we read this statement, of which we italicize a part omitted by Mr. Cook: "Considerable interest attaches to a statement recently made by Lostorfer and confirmed by Stricker, *though vehemently denied by others*, that the blood of syphilitic patients can be recognized by the presence of small, bright bodies." . . .

In Wagner's General Pathology (Am. trans., 1876, page 518), we read as follows: "Nedsvetzkí describes little bodies possessing movement in all directions (blood-nuclei, hæmococci) as constant ingredients of normal blood. These are probably identical with Zimmermann's 'elementary corpuscles,' Lostorfer's syphilitic corpuscles, etc."

"As little demonstrated, says Wagner in another place (page 108), are the fungi of intermittent fever (Salisbury and others). How easily even the most expert histologists fall into gross errors is shown by the strife just ended over the corpuscle of syphilis (Stricker, Lostorfer)."

Bäumler says that "the importance attached to Lostorfer's researches was attacked by Wedl and Köbner, and it was not long before these corpuscles

were deprived of all claim to a specific character through the fact being proved that like bodies occur in normal blood, and that they probably originate in the white corpuscles, which, in certain stages of syphilis, are often increased." (Ziemssen's Cyclopædia, Am. trans., vol. iii., page 41.)

In his next lecture, April 22d, Mr. Cook returned to the subject of Losterfer's corpuscles in the "nameless disease," referring his readers this time to "Lionel Beale's freshest work on Microscopy in Medicine." On consulting this writer (whose authority, by the way, is much less great than Mr. Cook would have his hearers believe) it will be seen that he expressly refrains from advancing any opinion upon the nature of the corpuscles, but contents himself with quoting an extract from a paper of Losterfer's published as long ago as 1871, and therefore anterior to the discussion in which the fallaciousness of the assertions upon which Mr. Cook relies was demonstrated.

In one of his fervent outbursts the "Monday lectureship" exclaims, "Cool precision, gentlemen, not rhetoric! On the edge of the tomb cool precision!" In this instance, however, Mr. Cook's statements, though undeniably *cool*, seem somewhat wanting in *precision*. T. B. C.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending April 20, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean of ten Years, '68-77.
New York.	1,093,171	563	26.78	24.32	28.71
Philadelphia.	876,118	317	18.82	18.80	21.54
Brooklyn.	549,438	210	19.88	21.51	25.50
Chicago.	460,000	147	16.62	17.83	22.39
Boston.	375,476	160	22.16	20.10	24.34
Providence.	100,000	39	20.28	18.81	19.20
Lowell.	55,798	12	11.18	19.09	22.50
Worcester.	54,937	14	13.26	14.07	22.30
Cambridge.	53,547	10	9.71	18.69	20.83
Fall River.	53,207	20	19.55	21.35	24.96
Lynn.	35,528	20	29.28	20.42	19.67
Springfield.	33,981	9	13.78	16.04	19.77
Salem.	27,140	10	19.16	20.28	21.15

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY. — At the annual meeting of the society, held at Watertown, April 17th, the following officers were elected for 1878: President, A. C. Webber. Vice-President, Alfred Hosmer. Secretary, C. E. Vaughan. Treasurer, J. W. Willis. Librarian, C. K. Kimball. Censors, E. H. Stevens, E. W. Emerson, Reuben Willis, A. L. Norris, M. A. Morris. Councilors, Morrill Wyman, W. W. Wellington, R. L. Hodgdon, H. E. Marion, J. L. Hildreth, E. S. Wood, E. R. Cogswell, Horace Chapin, J. G. Dearborn, Sanford Hanscom, G. B. Shute, Otis E. Hunt, R. A. Blood, A. C. Livermore, Peleg Wadsworth, J. C. Dorr, B. F. D. Adams, G. L. Warren, G. J. Townsend. Commissioner on Trials, H. O. Marey. Councilor for Nominating Committee, Morrill Wyman. Orator, E. S. Wood.

CHARLES E. VAUGHAN, Secretary.

SUFFOLK DISTRICT MEDICAL SOCIETY.—At the annual meeting on April 27th the following officers were elected: Dr. C. D. Homans, president; Dr. C. Ellis, vice-president; Dr. A. B. Hall, treasurer; Dr. T. M. Rotch, secretary; Dr. F. C. Shattuck, reporter; Dr. B. J. Jeffries, librarian; Dr. C. W. Swan, commissioner of trials; Dr. G. C. Shattuck, district nominating committee; Drs. G. H. Gay and S. A. Green, committee of supervision; Drs. Calvin Stevens, G. W. Gay, H. I. Bowditch, and J. P. Oliver, committee on social meetings; Drs. G. G. Tarbell, T. Waterman, E. N. Whittier, A. M. Sumner, and T. Dwight, censors; Drs. S. L. Abbot, J. Ayer, H. H. A. Beach, H. J. Bigelow, H. I. Bowditch, B. Brown, S. Cabot, P. M. Crane, D. W. Cheever, H. Curtis, H. Derby, F. W. Draper, C. Ellis, R. H. Fitz, G. H. Gay, J. O. Green, S. A. Green, F. B. Greenough, A. B. Hall, D. H. Hayden, R. M. Hodges, C. D. Homans, J. Homans, W. Ingalls, J. B. S. Jackson, J. F. Jarvis, B. J. Jeffries, G. H. Lyman, F. Minot, F. E. Oliver, J. P. Reynolds, W. L. Richardson, G. C. Shattuck, A. D. Sinclair, D. H. Storer, C. W. Swan, O. F. Wadsworth, C. E. Ware, J. C. Warren, J. C. White, W. G. Wheeler, and H. W. Williams, councilors.

BOSTON CITY HOSPITAL APPOINTMENTS.—The following appointments have recently been made at the City Hospital: Drs. R. T. Edes and S. G. Webber, visiting physicians to the department for diseases of the nervous system,—a new service lately established as a part of the general medical service; Dr. A. L. Mason, visiting physician; Dr. G. B. Shattuck, physician to out-patients; Dr. E. Wigglesworth, physician to out-patients with diseases of the skin; Dr. E. G. Cutler, pathologist, in place of Dr. W. P. Bolles, resigned.

CHANNING HOME.—Drs. J. B. Ayer and T. M. Rotch have been appointed physicians to the Channing Home.

MIDDLESEX NORTH DISTRICT MEDICAL SOCIETY.—The annual meeting of the society was held at their rooms Wednesday afternoon, April 24, 1878. Dr. Benjamin Benoit, Jr., and Dr. H. A. Sibley were admitted as members of the society. Dr. Walter Burnham, of Lowell, related two very interesting cases which recently came under his care. The following were elected as officers for 1878-79: President, George H. Pillsbury, of Lowell. Vice-President, George E. Pinkham, of Lowell. Secretary, George C. Osgood, of Lowell. Treasurer, N. B. Edwards, of North Chelmsford. Curator and Librarian, M. G. Parker, of Lowell. Commissioner of Trials, Nathan Allen, of Lowell. Standing Committee, John C. Irish, of Lowell, Francis C. Plunkett, of Lowell, Leonard Huntress, Jr., of Lowell. Councilors, L. S. Fox, of Lowell, Charles A. Savory, of Lowell, Joel Spalding, of Lowell, C. Dutton, of Tyngsborough, William Bass, of Lowell, Cyrus M. Fisk, of Lowell, Walter H. Leighton, of Lowell. Councilor for Nominating Committee, Charles A. Savory, of Lowell. Censors, Franklin Nickerson, of Lowell, Ezra B. Aldrich, of Lowell, A. W. Buttrick, of Lowell, H. J. Smith, of Lowell, William M. Hoar, of Lowell. Reporter, Franklin Nickerson, of Lowell.

WINDHAM COUNTY, CONN., MEDICAL SOCIETY.—The annual meeting of the society was held on Thursday, April 25th, at the Grand Central Hotel, Putnam, commencing at ten o'clock, and the following officers were elected for the ensuing year: President, John Wilter, Putnam. Secretary, J. B. Kent, Putnam. Fellows elected to the State Society at New Haven in May, Drs. Charles J. Fox, Willimantic, T. Morton Hills, Willimantic, Charles Rogers, Central Village, John Wilter, Putnam, J. B. Kent, Putnam. For the Board of Censors, T. M. Hills, S. Hutchins, and Elijah Baldwin. Delegates to the American Medical Association, Drs. Kent, Hills, and Griggs. Dr. Lowell Holbrook was elected editorial reporter on matters of professional interest for the year ensuing. An essay was read by Dr. Elijah Baldwin, followed by a discussion of cases. The exercises closed with a dinner.

BOSTON MEDICAL ASSOCIATION.—The annual meeting of the association will be held on Monday, May 6th, at 3.30 P. M., at No. 36 Temple Place.

CHARLES P. PUTNAM, *Secretary*.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—At the regular meeting of this society, to be held on Monday evening next, at eight o'clock, at its rooms, 36 Temple Place, Dr. C. Ellery Stedman will read a paper upon One Hundred and Fifty Cases of Typhoid Fever.